

Evactron® TEM Wand™

In-Situ Plasma Cleaning for (S)TEM

Removes hydrocarbon contamination directly at the (S)TEM objective polepiece for improved STEM/TEM imaging and analytical performance without column venting.



Key Features

- ✓ POP Ignition – no need to vent column
- ✓ Simple to use – as any side-entry holder
- ✓ Works with air – no need for gas supply
- ✓ Safe for EDS detectors (windowed and windowless)

Pop Ignition™

Technology that introduces calibrated volume of gas into the chamber allowing the plasma to ignite without relying on venting the microscope column.

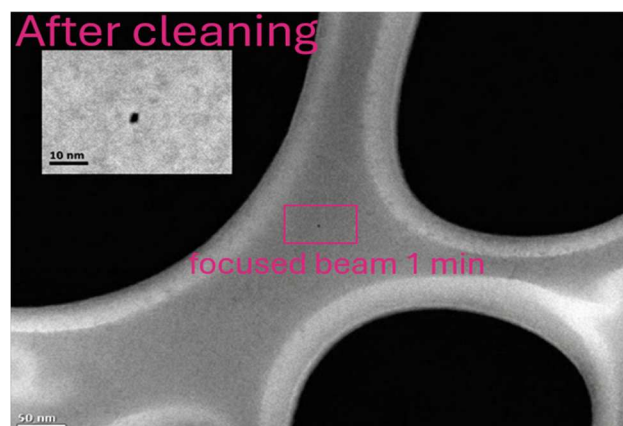


Figure 1. Contamination removal evidence – STEM HAADF images of a carbon support film collected before (left) and after (right) TEM Wand cleaning. The visible contamination spots produced by the focused electron beam. These artifacts are no longer visible in the right image. The TEM Wand removed the hydrocarbon contamination, without damaging the carbon film support.

Problem	Before TEM Wand	After TEM Wand
Focused Contamination Spot	Dark or light spot appears where beam is stationary focused	Spots eliminated
STEM Area Rastering	Rectangular contamination build up during imaging	Clean background, stable contrast when imaging same area
Analytical Data (EDS/EELS)	High carbon peaks detected	Clean background, confidence in elemental analysis
Column Pump Down Time	Slow pump down and long specimen insertion times	Fast recovery to base vacuum

Technical Specification	
Cleaning Mechanism	Downstream RF Plasma Cleaning with Oxygen Radical Flow
Plasma Ignition	Proprietary POP Ignition under vacuum conditions
Operating Pressure	Operational pressures suited for TEM side-entry vacuum levels
Operating Process Gas	Ambient Room Air (Standard) Optional process gas configuration
Interface Form Factor	Fits standard (S)TEM side-entry goniometers
RF Power Output	Operational frequency (13.56 MHz) Power range (10–16 W)
Control System	Compact tabletop controller with one-button operation and User-configurable recipes
Safety & Protection	Integrated vacuum interlocks
Input Voltage	100–240 VAC, 50/60 Hz (Universal Autosensing)

The Evactron TEM Wand brings gentle, downstream RF plasma cleaning directly to the objective lens polepiece inside (S)TEM. By delivering reactive oxygen radicals right where hydrocarbon contamination huddles, the TEM Wand restores peak imaging resolution and analytical accuracy without venting the column, without needing a liquid-nitrogen (LN2) cold trap, and without risking delicate microscope optics.

Key Benefits

- Improve image quality
- Restore analytical confidence
- No LN2 cold trap required
- No process gas supply required
- Damage-free cleaning

Simple Workflow

Insert → Ignite → Clean

Ordering

Part	Description
TW0202-10J	Evactron TEM Wand Decontaminator System
	Includes TEM Wand, Tabletop Controller, E-TC touchscreen, cable bundle and system manual

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